

CLAIMS AMENDMENT

1. **(currently amended)** An imaging system comprising:
 - a) a magnetic resonance imaging (MRI) system having a MRI field of view (FOV) and comprising a magnet for generating a static magnetic field; and
 - b) an x-ray ~~fluoroscopy~~ **imaging** system having an x-ray field of view (FOV) and comprising an x-ray source in the presence of said static magnetic field, said x-ray source comprising:

an x-ray tube for generating x-rays, said x-ray tube having an anode and functioning by accelerating an electron beam onto an anode target; and

means for steering said electron beam onto said anode target **;and**
 - c) **a feedback system in communication with said means for steering said electron beam, wherein said feedback system comprises means for measuring a location of a focal spot of said electron beam on said anode target.**
2. **(original)** The imaging system of claim 1 wherein said MRI FOV and said x-ray FOV are substantially coincident.
3. **(original)** The imaging system of claim 1 wherein said means for steering said electron beam comprises electrostatic plates.

4. (original) The imaging system of claim 3 wherein said means for steering said electron beam further comprises a controller for setting an electric potential of said electrostatic plates in dependence on said static magnetic field.
5. (original) The imaging system of claim 1 wherein said means for steering said electron beam comprises at least one electromagnet adjacent to said x-ray tube.
6. (original) The imaging system of claim 5 wherein said means for steering said electron beam further comprises a controller for setting a current in said electromagnet in dependence on said static magnetic field.
7. (original) The imaging system of claim 1 wherein said means for steering said electron beam comprises a magnetic material.
8. (original) The imaging system of claim 7 wherein said magnetic material is adjacent to said anode on a side opposite said electron beam.

9. (original) The imaging system of claim 7 wherein said magnetic material is an envelope of magnetic material around said x-ray tube.

10. (cancelled).

11. (cancelled).

12. (amended) The imaging system of claim ~~11~~ 1 wherein said means for measuring said location of said focal spot comprises a digital imager.

13. (original) The imaging system of claim ~~11~~ 1 wherein said means for measuring said location of said focal spot comprises a monitoring array adjacent to said anode for measuring an x-ray emission profile of said anode target.

14. (original) The imaging system of claim ~~11~~ 1 wherein said means for measuring said location of said focal spot comprises slits surrounding said electron beam for measuring a current through said slits.

15. (original) The imaging system of claim ~~11~~ 1 wherein said means for measuring said location of said focal spot comprises an infrared sensor adjacent to said anode for measuring a heat distribution of said anode.
16. (original) The imaging system of claim 1 wherein said x-ray tube is positioned so that said electron beam is substantially parallel to said static magnetic field.
17. (amended) The imaging system of claim 1 wherein said x-ray ~~fluoroscopy~~ imaging system comprises components, at least some of said components being non-magnetic, whereby said static magnetic field is not substantially disturbed by said x-ray ~~fluoroscopy~~ imaging system.
18. (currently amended) An imaging method comprising:
acquiring a magnetic resonance image of an object located within a field of view (FOV) of a magnetic resonance imaging (MRI) system; and
acquiring an x-ray ~~fluoroscopic~~ image of said object within a FOV of an x-ray ~~fluoroscopy~~ imaging system having an x-ray tube in the presence of a static magnetic field of said MRI system, comprising generating x-rays by accelerating an electron beam onto an anode target of said x-ray tube and steering said electron beam ~~onto~~ toward a focal spot on said anode target, wherein the steering

reduces a deflection of said electron beam by said static magnetic field of said MRI system.

19. (original) The imaging method of claim 18 wherein said MRI FOV and said x-ray FOV are substantially coincident.
20. (original) The imaging method of claim 18 wherein steering said electron beam comprises electrostatically deflecting said electron beam using electrostatic plates.
21. (original) The imaging method of claim 18 wherein steering said electron beam comprises electromagnetically deflecting said electron beam using at least one electromagnet adjacent to said x-ray tube.
22. (original) The imaging method of claim 18 wherein steering said electron beam comprises positioning a magnetic material adjacent to said electron beam.
23. (original) The imaging method of claim 22 wherein said magnetic material is positioned adjacent to said anode on a side opposite said electron beam.

24. (original) The medical imaging method of claim 22 wherein said magnetic material is an envelope of magnetic material positioned around said x-ray tube.

25. (new) An imaging system comprising:

- a) a magnetic resonance imaging (MRI) system comprising a magnet for generating a static magnetic field; and
- b) an x-ray imaging system comprising an x-ray source in the presence of said static magnetic field, said x-ray source comprising:

an x-ray tube for generating x-rays, said x-ray tube having an anode and functioning by accelerating an electron beam onto an anode target; and

an electron beam deflector reducing a deflection of said electron beam by said static magnetic field.